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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,900	06/21/2006	Kazuo Masuda	928.012	1709
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BURR & BROWN				
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SYRACUSE, NY 13261-7068				
EXAMINER				
FRANK, RODNEY T				
ART UNIT		PAPER NUMBER		
2856				
MAIL DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,900

Applicant(s)

MASUDA, KAZUO

Examiner

RODNEY T. FRANK

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-16 is/are allowed.
- 6) ☒ Claim(s) 1 and 6 is/are rejected.
- 7) ☒ Claim(s) 2-11 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 06/21/2006

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Specification

The following title is suggested: Method and Apparatus for Measuring Liquefaction in Soils.

Claim Objections

1. Claims 6, 7, 11, and 14 are objected to because of the following informalities: The claims all refer to the device in a way that is not clear. The examiner is not sure if there is a monitoring “zone” or a monitored “zoned” for the device. Further, there would not be a monitored “zoned”, it would be a monitored –zone—and the singular form of the word should be used. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henke et al. (U.S. Patent Number 4,594,899, hereinafter referred to as Henke). Henke discloses a method and apparatus for testing soil involves a probe with an inner cylinder insertable into the sample to be tested and rotatable through a limited arc of rotation. The inner cylinder may be rotated by an impulse, from an initial condition or by an oscillatory motion. An outer cylinder may be provided concentric to the inner cylinder

and spaced therefrom to facilitate the measurement of liquefaction resistance and soil degradation. A motion sensor mounted on the inner cylinder enables the recording of the response of the cylinder and the soil to a particular rotary excitation. A shield may be provided about the upper end of the inner cylinder in order to allow measurements to be obtained from a region sufficiently below the surface of the soil so as to be relatively free from surface effects. A surface compression unit may be provided between the inner and outer cylinders which is operable to supply a pressure to compensate for the loss of overburden in downhole applications. The surface compression unit may also apply a rotating shear force to smooth the soil surface so that the pressure applied by the unit is uniform (Please see the abstract).

4. With respect to claim 1, Henke discloses a method and apparatus of testing soil. In column 1, lines 51 through 64, Henke discloses that liquefaction tests are usually performed in the field. Column 4, lines 22 through 45 disclose that displacement forces are applied. While it is not specifically disclosed that the displacement forces are monitored, column 7, lines 33 through 38 disclose that a load cell is used to measure displacement, so this is considered to be a functional equivalent to the monitoring feature. Column 7, lines 39 through 53 disclose that the phenomena of liquefaction is induced by the buildup of pore water pressures in the soil during cyclic loading.

5. With respect to claim 6, Henke discloses a method and apparatus of testing soil. In column 1, lines 51 through 64, Henke discloses that liquefaction tests are usually performed in the field. Column 7, lines 39 through 53 disclose that there are various monitoring zones used with the device that utilize pressures for making

measurements. Column 5, lines 23 through 36 discloses the use of a control means (a hydraulic fluid) for the pressure generated within the device. Column 4, lines 22 through 45 disclose that displacement forces are applied. While it is not specifically disclosed that the displacement forces are monitored, column 7, lines 33 through 38 disclose that a load cell is used to measure displacement, so this is considered to be a functional equivalent to the monitoring feature.

Allowable Subject Matter

6. Claims 2-5, and 7-10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).
8. Claims 11-16 are allowed.
9. The following is an examiner's statement of reasons for allowance: The prior art does not disclose nor deem obvious a soil testing apparatus that has multiple zones and multiple cells whereby the cells are arranged in a specific arrangement, in combination with all other limitations of the independent claim 11. Further, the prior art does not disclose nor deem obvious a soil testing apparatus with multiple cells that have independent pressure rooms/chambers, with each cell applying designed to apply a loading to a corresponding soil layer, in combination with all other limitations of the independent claim 14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has cited various references deemed to be relevant to the general state of the art of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RODNEY T. FRANK whose telephone number is (571)272-2193. The examiner can normally be reached on M-F 9-5:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. T. F./
Examiner, Art Unit 2856
September 11, 2008
/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856